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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shinji Kishimoto

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EXAMINER

GUPTA, VANI

ART UNIT

PAPER NUMBER

3768

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,471	Applicant(s) KISHIMOTO, SHINJI	
	Examiner VANI GUPTA	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,6,8,9,12 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,8,9,12 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. ***Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.***

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 contains new matter, “suppressing the quantity of the drive signals;” the specification does not provide support for this feature.

2. ***Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

Claim 16 recites the limitation “the set value” in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 8, 9, 12, and 16 – 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Burke et al. (US 5,517,994).

Regarding claims 1, 8, 9, 12, and 16 – 18, Burke et al. discloses an ultrasonic diagnostic system (fig. 1) that is capable of performing self diagnostic tests on the system processing and control channels coupled to the transducer elements (#30) of an ultrasonic probe (#10; col. 7, line 12), and the ultrasonic probe, itself.

As described above, Burke's system comprises a probe that transmits and receives ultrasonic waves to and/or from a test subject (#12 and #38). The system also comprises a diagnostic processor (#20), which is coupled to a number of subsystems, including the ultrasound probe. There also is a beamformer (#14) and an image-and-Doppler processor (#16) (col. 2, lines 45 – 50). The image-and-Doppler processor processes digital echo signals to form an image or to make a diagnostic measurement such as the velocity of blood flow in the subject's body. The resultant image or measurement is displayed on a display (#18) (col. 2, lines 15 – 44; and col. 3, lines 1 – 16).

With further respect to claims 1, 8, 9 and 12, Burke teaches also teaches a judging section: the diagnostic processor operates under the control of, or in conjunction with, a central system controller (not shown). This allows the diagnostic processor to monitor the probe-air

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interface by performing “self diagnostic tests,” and adjust operating characteristic of the system electronics accordingly (for example, monitoring and adjusting probe temperature) (Abstract; col. 2, line 15 - col. 8, line 12). Applicant should note that, with respect to the amended feature of Claim 1, whether the control section is controlling the drive signals supplied to the probe to suppress a rise in temperature of the probe, or whether the control section is suppressing the drive signals to the probe for no reason at all, the two are inherently the same thing, because the temperature of the probe is directly related to the strength of the drive signal(s) being supplied to the probe, as is known in the art.

With respect to claims 16 – 18, Burke explains that his ultrasonic diagnostic apparatus is capable of displaying status messages about its overall performance and the performance of its components (col. 7, lines 25 – 40).

Applicant should note that the specific features or attributes of the messages themselves and what they represent do not limit the structure of the present application in such a way that it is novel over the prior art.

Furthermore, they are not limiting in such a way that Burke’s apparatus is not structurally and functionally incapable of generating the messages.

Furthermore, Burke is not limited in any way in reference to the display size, the display color, or other display aspects of the message that may change over time.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2 and 6 are rejected under 35 USC 103(a) as being obvious over Burke in view of Suzuki et al. (US 6,602,196 B2).

Regarding Claim 2, Burke discloses an ultrasonic diagnostic apparatus comprising a diagnostic processor that plays the role of the “judging section,” as explained above.

However, Burke differs from Claim 2 in that he does not appear to specifically disclose more than one image-mode processor.

Nonetheless, Suzuki teaches an ultrasonic imaging apparatus, comprising a B-mode processor and a Doppler processor (**fig. 2, #10 and #12; col. 6, lines 28 – 32**). A controller (fig. 2, #18) controls the operation of the B-mode processor, Doppler processor (*col. 6, line 65 – col. 7, line 5*), and CFM processor (*col. 7, lines 34 – 40*).

Suzuki also explains that ultrasound imaging is based on an established relationship between the sound-ray density, the scan range and the frame rate (*col. 1, lines 18 – 37*).

Accordingly, Suzuki complements the disclosing of Burke by teaching a controller that is capable of monitoring, when coupled to an image-mode processor, capable of monitoring the intensity of the echoes signals.

Therefore, it would have been prima facie obvious to modify Burke with the teachings of Suzuki to include the controller and image-mode processors such as B-mode, Doppler, and CFM, for wide range of performance to obtain the invention in the instant Claim 2.

Regarding Claim 6, Suzuki teaches “time-sharing” between the B-mode image processor and Doppler image processor (*col. 8, lines 30 – 42*). One of ordinary skill in the art

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would be aware that this time-sharing capability further would require switching means between different the different imaging modes.

Regarding claims 19 – 24, Burke discusses features (a) – (e), as discussed in the rejection of Claim 1, above.

However, Burke differs from claims 19 – 24 in that he does not specifically disclose a control section that controls sections wherein the ultrasonic diagnostic apparatus includes a judging section that judges, on the basis of brightness information, or Doppler signal information, or CFM image information.

Nonetheless, Suzuki teaches as such, as explained in the rejection of Claim 2.

Response to Arguments

Applicant's arguments filed December 16, 2008 have been fully considered but they are not persuasive.

Applicant's arguments with respect to Claim 1, specifically the feature with respect the “temperature rise in the probe,” have been considered but are persuasive. Though the arguments are essentially moot in light of Applicant's amendments with respect to the limitation, Examiner will address them because Applicant's arguments for the dependent claims hinge on the arguments for Claim 1.

Examiner points out that Applicant has not provided a criticality of why one must “suppress a rise in the temperature of the probe,” but merely argues against legalize utilized by the Examiner.

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Furthermore, Examiner respectfully points out that this feature is directed to intended use, and intended use does not limit the structure of the present application in such a way that is novel over the prior art of record. Additionally, Burke does not disclose a limitations in his disclosure that would inhibit his apparatus from suppressing a rise in temperature of his probe, as Burke does discuss ensuring the health of the probe. One of ordinary skill in the art would be aware that the maintaining a certain temperature of the probe is related to the health of the probe. Therefore, Burke is capable of suppressing the temperature of the probe. The prior Office Action stated as much.

In response to Applicant's arguments for Claim 2, Examiner respectfully disagrees. Please refer to aforementioned response to arguments and rejections above for details.

In response to Applicant's arguments for Claim 6, please refer to the rejection above.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Charlebois (US 5,230,339)* for performance evaluation of ultrasonic equipment; *Shirasaka (US 4,945,767)* for method and system for controlling power consumption of ultrasonic probe; *Abdelghani (US 4,708,127)* for ultrasonic system with feedback control; *Takeuchi et al. (US 4,694,690)* for ultrasound diagnostic system with internal checking and display means.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to VANI GUPTA whose telephone number is (571)270-5042. The examiner can normally be reached on Monday - Friday (8:30 am - 5:30 pm; EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-2083. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/V. G./

Examiner, Art Unit 3768

/Long V Le/

Supervisory Patent Examiner, Art Unit 3768